F A C T S H E E T

Proposal for the Application of Supplemental Standards at the Monticello National Priorities List Sites

United States Department of Energy
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The U.S. Department of Energy has prepared this Fact Sheet to explain why supplemental standards are proposed for certain properties in the Monticello Vicinity Properties (MVP) Site and Monticello Mill Tailings Site (MMTS). The supplemental standards establish cleanup standards for soil contaminated with uranium mill tailings and uranium ore based on an evaluation of risk for specific exposure scenarios. The supplemental standards associated with the MVP Site will be applied to city of Monticello streets and utility rights-of-way, along state highway rights-of-way within the Monticello city limits, and on a privately owned property with dense piñon and juniper stands. Supplemental standards associated with MMTS (Operable Unit II) will be applied to densely vegetated hillsides south of Montezuma Creek and the millsite. The application of supplemental standards for MMTS Operable Unit III is for contaminated soils and sediments in wetlands and riparian areas adjacent to Montezuma Creek 0.4 to 1.8 miles east of the millsite.

Background

The original Monticello mill was built in 1942 to provide an additional supply of vanadium during World War II. The mill was modified in the early 1950s to process uranium. Milling continued intermittently until the early 1960s when the mill was dismantled.

Tailings are the sand-like material that remains after processing. Uranium tailings contain naturally occurring materials that radioactively decay to radium and then to radon, a radioactive gas. Tailings and ore contaminated properties in and around the city of Monticello. Tailings were dispersed by wind from the millsite and residual ore remained from hauling and stockpiling operations.

The U.S. Department of Energy (DOE) entered into an agreement with the U.S. Environmental Protection Agency (EPA) and the State of Utah Department of Environmental Quality (UDEQ) to clean up tailings under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The cleanup must also comply with applicable or relevant and appropriate Federal, State, and local environmental laws and regulations.

Supplemental Standards

In accordance with Title 40 of the *Code of Federal Regulations* Part 192 (40 CFR 192), application of supplemental standards allows the development of alternate cleanup levels based on an assessment of risk to human health and the environment for specific exposure scenarios. Supplemental standards may be allowed where removal would cause undue environmental damage or would result in excessive remedial action costs compared to any health benefits achieved by reduction in risk.

In November 1989, a Record of Decision (ROD) for the MVP Site was signed. The ROD is the CERCLA document that explains the rationale for selecting a particular cleanup method or remedy. The ROD established the preferred remedy as removal of contaminated material from the MVP Site to below 5 picocuries per gram (pCi/g) in the surface 6 inches of soil or below 15 pCi/g in successively deeper 6-inch layers. These standards are established in 40 CFR 192. The use of supplemental standards, as allowed by 40 CFR 192, for the MVP Site was not proposed in the ROD.

In September 1990, a Record of Decision for the MMTS was signed. The ROD established that supplemental standards could be applied to the densely vegetated hillsides south of Montezuma Creek and that institutional controls could be used to restrict access and control the use of the land to limit future exposure.

The MMTS ROD established that the soils adjacent to Montezuma Creek would be remediated to the standards in 40 CFR 192.

Since the issuance of the MVP Site and the MMTS Site RODs, DOE, EPA and UDEQ have determined that the application of supplemental standards could provide for a more cost-effective and environmentally protective remedy for remediation of certain areas of the sites. This Fact Sheet was developed to explain why supplemental standards are being proposed.

Monticello Vicinity Properties

Monticello City Streets and Utilities/Highway 191 and 666 Rights-of-Way: Contamination exceeding the 5 pCi/g and 15 pCi/g standards remains in city of Monticello rights-of-way associated with streets and utilities, in the Highway 191 embankment just west of the millsite, and potentially in other State highway rights-of-way within the Monticello city limits.

Privately Owned Piñon/Juniper Property. On a privately owned property in the city of Monticello contamination exceeding the 5 pCi/g and 15 pCi/g standards remains in a dense piñon/juniper stand.

DOE proposed supplemental standards on the city streets and utility rights-of-way and state highway rights-of-way in the city of Monticello because the excessive costs associated with remediation and disruption of highway operations exceed the health benefits associated with removal of contamination. The recommendation to apply supplemental standards to these rights-of-way is supported by a human-health risk assessment that considers periodic maintenance worker and construction worker exposure scenarios. Evaluation of the identified potential risks presented to these workers falls within regulatory ranges of acceptability. Institutional controls will be implemented to prevent use of these rights-of-way for anything other than their current use. Additionally, through a Cooperative Agreement with the city of Monticello, DOE will manage and dispose of contaminated material excavated from rights-of-way in the future.

Supplemental standards were proposed on the privately owned piñon/juniper property because of the owner's desire to maintain the stand of mature piñon and juniper trees and native vegetation currently on the property. Remediating the property to the 40 CFR 192 standards could result in the potential loss of wildlife habitat, native flora, and topsoil. Additionally, erosional problems and excessive costs from a full cleanup can be avoided through the application of supplemental standards.

The health risk was assessed for residential, residential backyard, extended backyard, and visitor exposure scenarios. The health risks were determined to be acceptable with these future residential land-use scenarios if the property was remediated to 40 CFR 192 standards in all areas that exceeded 16 pCi/g and in a residential building footprint. Institutional controls will be implemented to ensure that all future residential development footprints meet the 40 CFR 192 standards.

Monticello Mill Tailings Site

DOE-Owned Densely Vegetated Hillsides South of Montezuma Creek (Operable Unit II).

As in the case of the privately owned piñon/juniper property, supplemental standards were proposed to maintain the stand of mature piñon and juniper trees and native vegetation currently on the properties. The application of supplemental standards in lieu of complete remediation will reduce the impact to wildlife habitat, native flora, and topsoil. In addition, the high cost of the extensive remedial effort to remove contamination that currently poses a minimal health risk will be avoided. Additionally, the health risk was assessed for extended backyard and visitor exposure scenarios. The health risks were determined to be acceptable with these future land-use scenarios if the property was remediated to 40 CFR 192 standards in all areas that exceeded 32 pCi/g at the surface.

DOE plans to transfer ownership of the properties to the city of Monticello; the land will be designated open space and made available to the public in perpetuity. Use of these properties will be restricted to ensure that no habitable structures may ever be built on them. Therefore, evaluation of residential or residential back-yard exposure scenarios was not applicable. Institutional controls, including restrictive easements, will be implemented to ensure that there is no residential development on the properties.

Montezuma Creek Canyon

DOE is proposing to apply supplemental standards to the soil and sediment adjacent to Montezuma Creek from approximately 0.4 mile east of the millsite to 1.8 miles downstream of the millsite. The radiologically contaminated soils occur in a narrow band following the path of Montezuma Creek and are generally less than 24 inches deep.

The application of supplemental standards will prevent the potential loss of wildlife habitat, native flora, and topsoil from full remediation to the 40 CFR 192 standards.

A partial removal of contaminated soils was completed in January 1999. Institutional controls, including restrictive easements, will be applied to limit future exposure from contaminated soils left in place.

A human-health risk assessment was conducted to evaluate the health risk from this contamination. With the partial removal of contaminated soils in conjunction with institutional controls, the human health risks from

radioactive substances is negligible. This partial removal was discussed at a public meeting held in April 1998.

Institutional Controls

Institutional controls that will be used to limit future land use consist of property deed annotations and implementation of a Long-Term Surveillance and Monitoring (LTSM) Plan. The LTSM Plan addresses the following items:

- placing restrictions on land use,
- deed annotation requirements, and
- routine surveillance and inspection requirements.

Next Steps

There will be a 30-day public comment period on the application of supplemental standards beginning on March 5, 1999, and ending on April 5, 1999. The Administrative Record and supplemental standards application documents can be reviewed at the Monticello city offices from 8:00 a.m until 4:30 p.m. Monday through Friday and 6:00 to 8:00 p.m. on Tuesday and Wednesday evenings. DOE will hold a public meeting on March 18, 1999, in the Monticello High School Auditorium from 7:00 to 9:00 p.m.